

Ag Technology: Farming & Ranching for a Future

By: Taylor Storbakken

Technology is developing every day. In agriculture we have went from horse pulled plows to tractors and combines. So, the question is what is next and what does the future of ag technology look like?

In 1900 about 11 million people in the U.S. worked on a farm. Now we are down to only 6.5 million farmers. Even though there are less farmers today we are still managing to feed more people. In 1900 the population was 76 million and today the population is over 321 million.

As climate patterns change and the human population continues to rise the risk of a food shortage becomes more and more critical. By the year of 2050 the population of the world is estimated to jump from 7.53 billion to nearly 10 billion. This means that all of us, scientist, farmers, and ranchers are going to have to work that much harder to feed the world.... Well wait a minute what if farmers and ranchers didn't have to work as hard. As technology advances, we are finding new and better ways to farm. Like the famous quote says, "Why work harder when you can work smarter?".

Smart farming is a farming management concept using modern technology to improve the quality and quantity of agricultural products which is also referred to as "precision agriculture", these are techniques that farmers could use to reduce their environmental impact and use land management practices to fit the needs of a farm.

Ranchers are increasingly using technology such as drones and sensors to monitor and detect if livestock are ready for breeding or if there is a health issue before any symptoms are shown. This allow ranchers to treat their livestock much

quicker, leading to more healthy livestock, and healthy livestock means more food.

Meanwhile farmers are using satellites, drones, sensors, and laser-guided tractors to collect data about the environmental conditions in the field. Farmers no longer have to apply water, fertilizers, and pesticides across the entire field. Instead they can target certain areas or different plants with what they need, and the right amount of it. Since less fertilizers and pesticides are used it is better for the environment because there is less runoff of chemicals into our water. As technology advances hopefully we can grow bigger yields faster, decrease use of water, fertilizers, and pesticides, and make do with less. Technology is going to be needed to feed the world.

With continued population growth there is not only a threat of a food shortage but there could also be an energy crisis on the line. Fossil fuels are an example of a resource used to produce energy. They are continuously forming but that doesn't mean that someday they won't run out. The fossil fuels that have been formed over 500 million years we have been using over the past 200 years. Some scientists even believe that we are getting close to being halfway through all earth's fossil fuels. A new wave of innovation is vital to develop different methods of fuel so that we can eliminate waste, reduce pollution, and deliver energy around the world. That means directing more attention on renewable energy; renewable energy is a new way of creating energy that is derived from the sun, wind, and water.

There are many ways that farmers and ranchers can incorporate renewable energy into their farm operations. Some examples are using solar panels, wind turbines, or hydroelectric power. These recent ways of providing energy are a

better choice than using fossil fuels such as coal and oil which release carbon dioxide into the atmosphere, trapping the Sun's heat and causing global warming. Whereas renewable sources of energy release little or no particles that cause air pollution.

To lead us on the road to a better future we desperately need a wave of innovation. Not only for our own way of life, but also for the planet. The amount of impact we cause is serious and conserving our natural resources must be our top priority. Hopefully in the near future, technology will help decrease the amount of negative impacts that farming and ranching causes. All the way from planting seeds in the field to buying a box of cereal at the store. As you are listening to me give this speech today inventors, creators, and problem solvers are working on solutions to fuel and feed the world along with protecting our limited natural resources. There are always better ways of doing things. It is in those ways of doing things that will change the world. The world of our children, grandchildren, and great-great grandchildren. Technology has already come so far since the 1900's so who knows what the world of ag technology will look like in another 100 years. But what I do know is this; the best way to protect the future is to invent it.